REMARKS

The foregoing amendments and these remarks are in response to the Office Action dated October 16, 2008. Applicants hereby request a three month extension of time for filing this response. Authorization is given to charge the appropriate fees to Deposit Account No. 50-0951.

At the time of the Office Action, claims 1-12 were pending. In the Office Action, objection were raised to claims 1, 9 and 11. Claims 1, 9 and 11 were also rejected under 35 U.S.C. §112, first paragraph. Further, claims 1-5, 8, 10 and 12 were rejected under 35 U.S.C. §103(a). The objections and rejections are discussed in more detail below.

I. Rejected under 35 U.S.C. §112

Claims 1, 9 and 11 were rejected under 35 U.S.C. §112, first paragraph, for failing to comply with the enablement requirement. Applicant respectfully traverses this rejection. The specification on page 8, lines 19-27, provides a clear suggestion regarding how to derive the load angle δ of a synchronous motor. The specification states that the load angle δ is the time phase displacement between back EMF and the supply voltage V of a synchronous motor, that the processing unit 16 receives signals concerning the supply voltage V and the rotor induction, and that the rotor induction and the back EMF are in quadrature (complementary).

Accordingly, a person of ordinary skill in the art at the time of the invention would have no difficulties designing the control unit in such a way as to perform a real-time calculation of the load angle δ by assessing the time delay between the supply voltage signal V and the rotor induction signal.

Furthermore, the Office Action alleged that "the specification does not disclose how the critical load angle is calculated." Applicant respectfully disagrees on this point. The specification (see at least pages 9-10, lines 25-26) thoroughly explains how to acquire the critical load angle value. According to the specification, when the float level sensor establishes high level position (test phase Q1, see also Figure 7), the pump is turned on and its load angle is computed and stored as "critical."

The Office Action also alleges that the turning on of the pump is not controlled by the float level sensor and the load angle difference. This is incorrect because, as may be seen in the flow-chart from Figure 7, the pump is turned on as a result of tests on the signal of the float level

sensor. For instance, the pump may be turned on as a result of a "high" value provided by the float level sensor (see specification at page 9, lines 25-27).

Nevertheless, in the interests of expeditious prosecution, various amendments have been made to the claims to overcome this rejection, and withdrawal of the rejection is thus respectfully requested.

II. Rejections of the claims based on cited art

Claims 1-3 and 5-8 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,390,780 to Batchelder et al. ("*Batchelder*") in view of U.S. Patent No. 5,434,491 to Marioni ("*Marioni*"). Claim 4 is rejected under 35 U.S.C. §103(a) as being unpatentable over *Batchelder* in view of *Marioni*, and further in view of U.S. Patent No. 6,452,202 to Eom. Claim 10 is rejected under 35 U.S.C. §103(a) as being unpatentable over *Batchelder* in view of *Marioni*, and further in view of U.S. Patent No. 5,015,151 to Snyder. Claim 12 is rejected under 35 U.S.C. §103(a) as being unpatentable over *Batchelder* in view of *Marioni*, and further in view of U.S. Patent No. 6,625,519 to Goodwin et al.

Amended claim 1 is believed to be allowable over the cited prior art. Support for the amendments presented herein may be found at least in the description, page 8, lines 19-27 and in the flow chart depicted in Figure 7.

None of the documents cited discloses a driving device according to this claim. *Batchelder* discloses a controller system meant to drive a generic bilge pump, not specifically a synchronous pump. Accordingly, the controller system does not perform the critical startup of the motor, and there is no need for detecting the rotor polarity and position by means of a position sensor as required in claim 1. Sensor 104 is a generic load sensor, and may be unable to determine such parameters which are needed for the electronic startup of a synchronous motor. To the contrary, the driving device according to claim 1 is able to perform both the operations of starting up a synchronous motor and of shutting it down in case of low water level using the same position sensor 21.

Moreover, the controller system from *Batchelder* is merely shutting down the motor in case of a low load sensed by the load sensor 104, and thus the sensed value is not compared with a critical value acquired during a high level condition, as in the present claims. In other words,

the controller system from *Batchelder* shuts down the pump whenever the load falls below a predetermined threshold value. However, such a threshold value has been computed for a given fluid (for instance water) but may be grossly inaccurate whenever the pumped fluid has a different density. In the present claims, the threshold level is dynamically computed during the critical load angle assessment step.

For the foregoing reasons, claims 1 is patentable over the cited prior art. Dependent claims 2-12 are also believed to be allowable because of their dependence upon an allowable base claim, and because of the further features recited

III. Conclusion

Applicant has made every effort to present claims which distinguish over the prior art, and it is thus believed that all claims are in condition for allowance. Nevertheless, Applicant invites the Examiner to call the undersigned if it is believed that a telephonic interview would expedite the prosecution of the application to an allowance. In view of the foregoing remarks, Applicant respectfully requests reconsideration and prompt allowance of the pending claims.

Respectfully submitted,

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